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THE BULLETINS WILL NOT APPEAR DURING THE HOLIDAYS. NEXT ISSUE WILL BE JANUARY 5, 1953.

(SEE BULLETIN NO. 2)

GEORGE PICKOW, THREE LIONS

ARAB TRADERS RIDING CAMELBACK ALONG JORDAN'S DUSTY ROADS LOOK LIKE THE THRSE WISE MEN WHO FOLLOWED THE STAR TO BETHLEHEM NEARLY 20 CENTURIES AGO

Bulletin No. 1, December 15, 1952

Mount Everest Remains a Challenge

(With the outcome of the latest climb up Mt. Everest in doubt at press time, the following story is furnished for background information.)

ONE day in 1852, the Bengali chief computer rushed into the office of India's surveyor-general, Sir Andrew Waugh, and exclaimed, "Sir, I have discovered the highest mountain in the world!" He had indeed. He had discovered that what is now called Mt. Everest towered at least 29,002 feet above sea level. No higher point is recorded anywhere on earth.

Now, a century later, Mt. Everest in the snowy fastnesses between Nepal and Tibet is enjoying its most spectacular year. Gasping climbers have twice struggled closer to its five-and-a-half-mile summit than men have ever gone before and come back alive.

Scientists Believe Everest May Have Grown

Chomolungma—"Goddess Mother of the World"—worshipful Tibetans call this great snowy pyramid. India's early surveyors were more prosaic. They called it merely "Peak XV."

Although 29,002 is still the official height of Everest, the Survey of India admits the figure is almost certainly too low. Later observations, corrected more carefully, give a height of 29,141 feet. Some scientists think the mountain has grown as much as 200 feet in the last century, under tremendous upward pressures from the earth. Last spring climbers fixed the height at 29,610 feet.

Everest was named for the first surveyor-general of India, Sir George Everest. The Western world did not learn of the Tibetan name until after the turn of the present century. Nor were Westerners able then to approach the giant peak. Politically, it was out of reach.

Since 1913, however, there have been repeated explorations and assaults of Everest by Europeans. Eleven major expeditions have been permitted to climb it, seven of which sought the summit. The first exploring party set out in 1921, sponsored by Britain's Royal Geographical Society and the Alpine Club.

American Pilot Flew over Top

In 1933 the top of Everest was thoroughly photographed from the air by two British planes making the first flight over the world's topmost point (illustration, next page). In 1942 an American colonel, on a routine test flight from India, flew over Everest's summit.

Seven all-out attempts to reach the top of Everest were made between 1922 and 1952. None of them can count as real failures for each time more has been learned of the mountain. The most famous attempt was made in 1924 by the British. From below the tiny figures of two men, George L. Mallory and Andrew C. Irvine, were seen fighting upward only 800 feet from the summit. Then clouds closed in, and the climbers were never seen again. Many mountaineers believe Mallory and Irvine reached the top, only to fall to their deaths while descending.

ENTERED AS SECOND CLASS MATTER APRIL 27, 1943, POST OFFICE, WASHINGTON, D. C., UNDER ACT OF MARCH 3, 1879.
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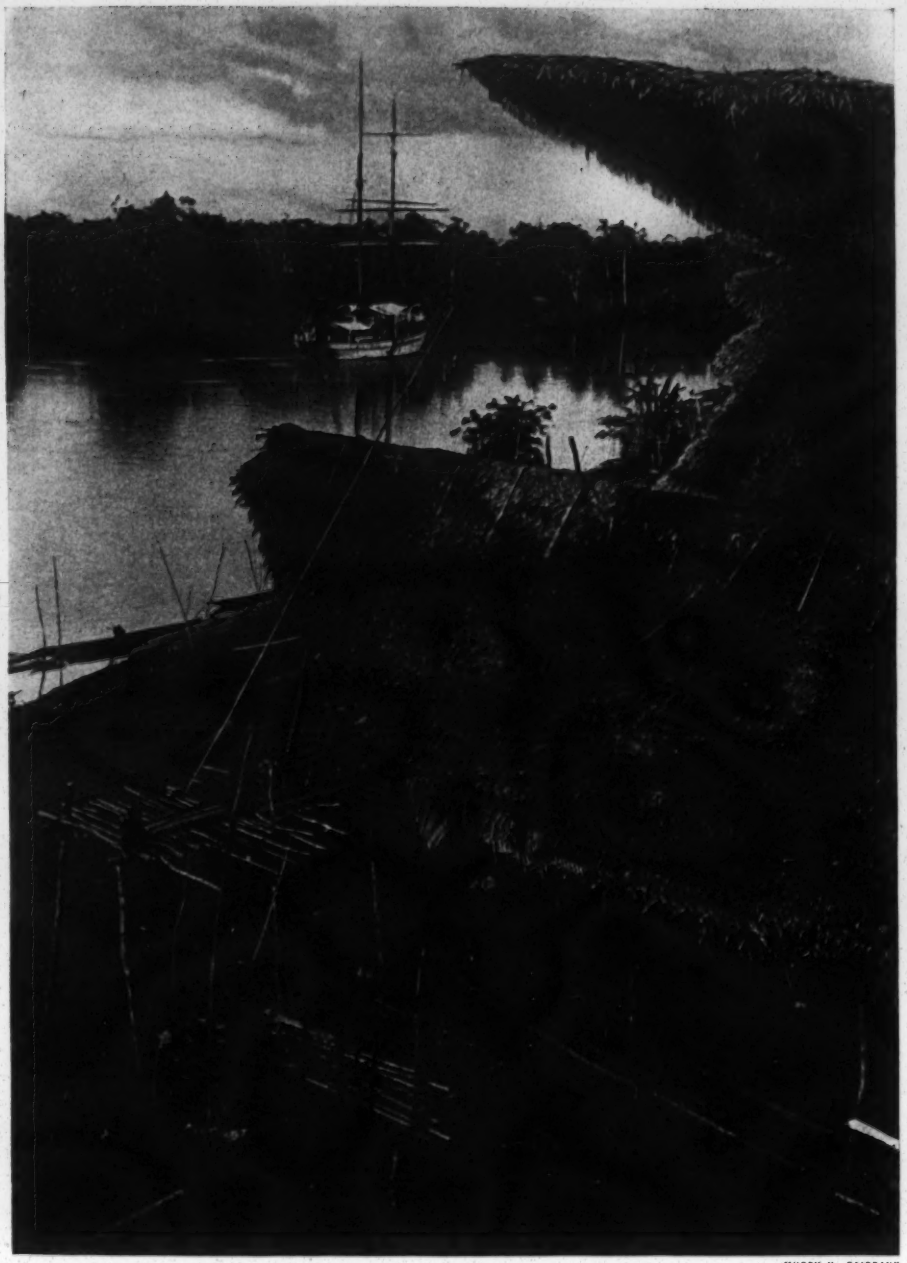

MURRY N. FAIRBANK

BEAK-ROOFED CLUBHOUSES STAND BESIDE A NEW GUINEA RIVER

Shaggy gables, like the bills of gigantic birds, project from these clubhouses along a jungle river in New Guinea (Bulletin No. 5). The clubs are for men—no women allowed. The houses are more than 100 feet long, with three rooms—one for each group into which the members are divided by age. Initiation ceremonies mark a member's advance from group to group.

Bulletin No. 2, December 15, 1952

New "Digs" Add to Ancient Jericho's Age

JOSHUA, who—more than a thousand years before the birth of Christ—brought the walls of Jericho tumbling down with the sound of horns and the shouts of his followers, was neither the first nor the last to level the outer ramparts of that ancient city of the Holy Land.

Nature and such conquerors as Joshua took turns in visiting destruction on Jericho. The historic city is now a village in the Hashemite Kingdom of the Jordan (commonly called Jordan). In the vicinity of the present village lie the ruins of some of the most ancient settlements in the world.

Stone Age People May Have Built First Wall

Recent research by archeologists in the neighborhood of Jericho has unearthed what may be the oldest-known city or town wall in the world. It lies buried beneath the hills of the Dead Sea desert.

Jericho's earliest wall probably was built by prehistoric people of the neolithic period. These were people of the stone age who had learned to polish their stone implements but had not yet discovered the art of making pottery.

Palestine's neolithic period stretched over the centuries somewhere between 10,000 and 4,000 B. C. The first wall of Jericho may be as old as the traces of civilization discovered at Jarmo in Iraq, which are believed to be among the oldest evidence of village life in the world.

Signs of even earlier community life are thought to lie beneath the neolithic findings in the area around Jericho, but their age has not been estimated. The traces antedating the wall at Jericho are believed to indicate that an agricultural village once stood on the site.

The remains of five other distinct city walls were discovered in the rubble and earth which had buried the neolithic wall. The earliest of these ancient walls was probably destroyed by an earthquake in the first centuries of the bronze age, about 2,000 years before the beginning of the Christian era.

Joshua May Have Destroyed a Later Wall

The fate of the four other walls has not been determined, but some of them may have been demolished by invading armies.

Perhaps one of the later walls was destroyed by Joshua's sound attack, although archeological evidence has failed to turn up definite ruins that can be dated in his time, which is estimated to be about 1,200 years before Christ.

Later ruins have been more thoroughly explored. It is known that Herod the Great built a city on the site shortly before the time of Christ. During a revolt following Herod's death, his palace and a number of other buildings were burned. Herod's son, Archelaus, rebuilt the palace and also constructed many buildings in the area. There is some doubt as to which of the Roman ruins (illustration, next page) uncovered can be considered the work of Herod, and which that of his son.

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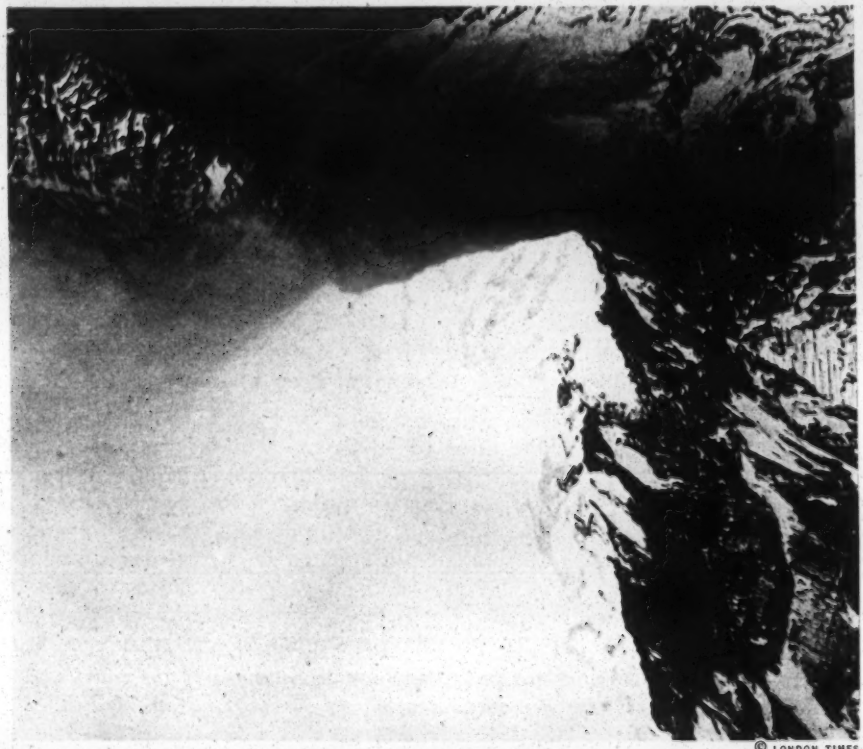
The past few years have seen an entirely new form of attack launched against Everest. All previous climbs which reached the last 1,000 feet were made up the north face, from Tibet. But communist conquest of Tibet has closed this approach, and the hitherto unknown south face, long thought to be unclimbable, has been attacked.

In 1950, Britons and Americans explored Everest from the south through Nepal. Another British team returned in 1951. In the spring of 1952, before the monsoons swept north across India, a Swiss mountaineer named Raymond Lambert and a Sherpa tribesman named Tensing reached a point only 800 feet from the summit before turning back.

The Swiss returned in the fall to try again, the first men to attempt the climb after the monsoons rather than before. Late in November runners brought back word that the Swiss had nearly reached their goal. No further definite word had been received at press time. A British party has Nepal's permission to try Everest again in 1953.

NOTE: Mt. Everest may be located on the National Geographic Society's map of Asia and Adjacent Areas. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

See also, "The Aërial Conquest of Everest," in *The National Geographic Magazine* for August, 1933. *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00, 1930-1945; $2.00, 1913-1929. Earlier issues at varied prices.)*



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A NOTABLE "FIRST" FOR *THE NATIONAL GEOGRAPHIC MAGAZINE* WAS THE PUBLICATION 20 YEARS AGO OF THIS FIRST AËRIAL PHOTOGRAPH OF EVEREST'S PEAK

Bulletin No. 3, December 15, 1952

Waste "Rain" Grows a Jungle in New Jersey

WHAT would happen to the United States landscape if 30 times the average rains fell, for example, on the crowded region between New York and Washington, D. C.?

For the past three years, in a patch of woods in southern New Jersey, millions of gallons of water have hissed from gun-like spray nozzles as man-made rain. Strange changes have taken place. Where once an ordinary grove of scrub oak stood, a jungle now grows.

Covers 20,000 Acres

Measured against world's record rains (Cherrapunji, India, was doused with 1,041 inches in 12 months, and averages 426 inches a year), this spot in New Jersey has the wettest forest on earth. The region's normal annual rainfall is 41 inches, but these few acres have received up to 1,200 inches in a year's time.

This artificial jungle stands on Seabrook Farms, a huge mechanized vegetable garden and processing plant near the town of Bridgeton. The largest combined truck farm and frozen-food factory in the nation, —and in a state where truck farms abound—Seabrook Farms covers about 20,000 acres of rich flatlands in Cumberland and Salem counties west of Atlantic City.

Its cannery and freezing plant uses 12,000,000 gallons of water a day at the peak of the packing season. Disposing of so much water was a serious problem. After trying various methods of purifying the outflow, the company had almost decided to invest $1,000,000 in a biofilter installation—gravel beds in which vegetable scraps and other wastes in the water would be consumed by bacteria.

Johns Hopkins University, however, has a laboratory for the study of climate at Seabrook Farms. As a last resort, the climatologists tried spraying the river of waste water back on the land, in the hope that the ground itself could be turned into a huge filter.

Some Spots Deluged with 100 Feet of Water

The first tests in an unused open field of clover failed. The soil soaked up only so much water, then became soupy. But when the spray nozzles were moved to the edge of a patch of woods, an amazing thing happened. No matter how much water was sprayed into the woods, it was soaked up as fast as it fell—50 inches of man-made rain in ten hours, and since 1949, up to 100 feet of water a year in certain spots.

When the Seabrook project began, the area sprayed looked like any other wooded section of the coastal plain. Slender second-growth oak, scrub pine, and poison ivy grew in the sandy soil.

Today the woods grow like magic. They could almost compete with Jack's beanstalk. Seeds germinate that, pre-Seabrook, would have been dormant. Small shrubs and vines twist together to form a solid mat of greenery. Through the jungle-woods small animals, such as wood mice and chipmunks, run in far greater than normal numbers.

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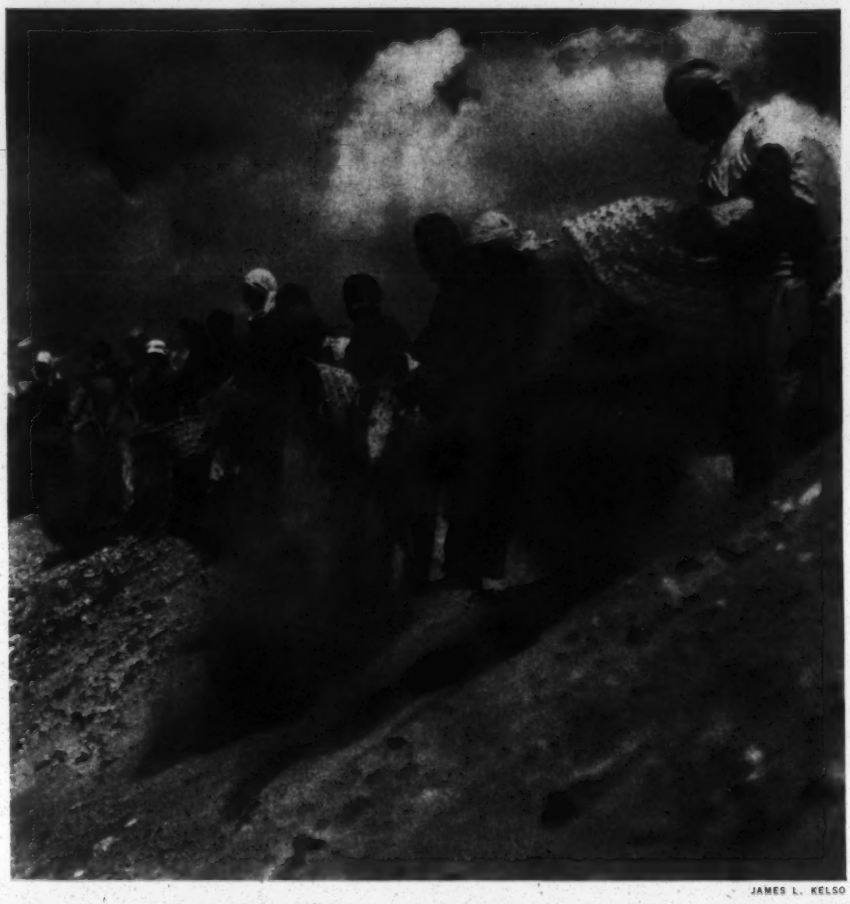
Antedating the Roman structures by some two centuries are the ruins of a Hellenistic tower which must have been built either by the Jews or their Greek-Syrian enemies. After the Romans left, the Arabs (illustration, cover) continued the building at Jericho. These later structures and the relics of the Roman occupation are now part of the mountain of rubble which rises in the Wilderness of Judaea.

The crowning touch to Jericho's 4,000 years of history is the debris of broken glass and bully-beef tins left by a detachment of British cavalry stationed there during the First World War, 35 years ago—a mere breath of time, archeologically speaking.

NOTE: The Hashemite Kingdom of the Jordan (once known as Transjordania and Trans-Jordan) may be located on the Society's maps of Bible Lands and the Cradle of Western Civilization, and Southwest Asia.

For additional information, see "Hashemite Jordan, Arab Heartland," in *The National Geographic Magazine* for December, 1952; "The Ghosts of Jericho," December, 1951; "Home to the Holy Land," December, 1950; "The Geography of the Jordan," December, 1944; and "Canoeing Down the River Jordan," December, 1940.



JAMES L. KELSO

NEW HILLS ARISE IN ANCIENT JORDAN AS ARAB LABORERS DUMP THE DUST OF CENTURIES FROM EXCAVATIONS REVEALING THE RUINS OF ROMAN JERICHO

Bulletin No. 4, December 15, 1952

Alaska's Wolves Menace Santa's Reindeer

SANTA CLAUS may have some trouble this year rounding up enough reindeer for his Christmas jaunt across the troubled world.

Even the reindeer are in trouble. Rudolph, the lovable red-nosed one, as well as Dasher and his teammates, are threatened by Arctic wolves. Within the past decade these vicious marauders have helped destroy all but an estimated 50,000 of Alaska's great herd of some 550,000 caribou, as the animal is generally called in America.

Is Useful the Year Around

The reindeer (or caribou) shortage, plus the difficulty of keeping the animals alive in temperate climes, has prevented most children from viewing Santa's trusty steeds for several holiday seasons past. One Christmas a New York department store coped with the emergency by using Catskill Mountain deer as substitutes.

Dwindling of reindeer herds is an even more serious problem, however, among peoples whom these animals serve on a year-round basis. Although the average reindeer has never learned the flying techniques of St. Nick's Dasher, the animal is remarkably versatile in its wintry home at the earth's far north. There it supplies food, clothing, transportation, and even shelter.

In its native Lapland—an Arctic region including northern sections of Norway, Sweden, Finland, and Russia—the reindeer has been domesticated since prehistoric times. Tended in herds like cattle, the animal is taught to pull sleds (illustration, next page), and can carry packs. Small children can ride reindeerback, but it is not quite strong enough to carry a grown person.

Both male and female reindeer have antlers. Those of the male are larger and their branches form a more intricate pattern. The reindeer's thick coat is brown, fading to white underneath. It has a short tail, and a beard-like growth of hair along its throat.

The reindeer's milk is rich and creamy; its body offers nourishing meat. The hide of one animal will provide enough material for two parkas and a pair of boots. Tents for the herders may be fashioned from several reindeer hides sewn together. Crude but useful implements are carved from the animal's tough horns and hoofs.

Herds Introduced into Scotland

With so much to offer, the reindeer has been over-hunted in recent years. The United States government imported them into Alaska in 1892 when the natives of that far-north region were threatened with starvation. In 1929 the Canadian government sponsored the migration of some 3,000 reindeer from Alaska for the Eskimos who lived along the frozen shore west of Hudson Bay.

Since World War II the United Kingdom has introduced a herd of 25 reindeer into northern Scotland in the hope of developing a new meat supply. Reindeer have been flown to Greenland to establish a new indus-

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Scientists studying the changes in plant and animal life have to hack their way through this outdoor laboratory with machetes. The United States Geological Survey is interested in the effects of the spraying on ground-water levels in the surrounding area.

Seabrook Farms is trying to unravel the secret of why the woods will soak up so much water while open fields of the same soil will not. What had farming done to the soil? Can field crops be improved with tremendous doses of water?

If a jungle can be grown in the woods, perhaps larger crops of such vegetables as peas, potatoes, beets, tomatoes, and spinach might spring from earth soaked far beyond its normal saturation point. The possibility is being explored.

NOTE: Bridgeton and the area of Seabrook Farms may be located on the Society's map of the Northeastern States.

For additional information, see "Water for the World's Growing Needs," in *The National Geographic Magazine* for August, 1952; "More Water for California's Great Central Valley," November, 1946; and "Greens Grow for GI's on Soilless Ascension," August, 1945.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, April 21, 1952, "Record Rains Have Deluged Many Lands."

COURTESY CAMPBELL SOUP CO.

PICKING, PROCESSING, AND SELLING VEGETABLES OCCUPIES THOUSANDS OF NEW JERSEYITES

Truck farms which pattern New Jersey in a green checkerboard give it the nickname of the Garden State. From this field of okra—also called gumbo—thousands of bushels of the dark green pod will go to a canning factory which turns out enormous quantities of the soup to which the vegetable gives its name as well as its quality. Chicken gumbo, a southern soup, is popular all over the country. Gumbo, of the mallow family, contains a mucilage useful for thickening soups and sauces.

Bulletin No. 5, December 15, 1952

Passion Fruit Gives New Guinea New Venture

PASSION fruit grown by semi-savages in New Guinea may some day appear on America's grocery shelves.

An Australian firm is already cultivating and processing this exotic plumlike fruit in the neighborhood of Sydney. The company plans to set out groves and install packing machinery at Garoka in the jungle-grown central highlands of New Guinea—second-largest island on earth. The Australian government, which administers the eastern half of New Guinea (while the Netherlands holds the other half), is encouraging the project as part of an ambitious plan for developing the island's resources.

Retained Stone Age Civilization

Before World War II, New Guinea was little explored. Even today such hardy travelers as gold prospectors, sheep raisers, and scientists studying the gorgeous birds of paradise sometimes discover isolated villages of stone age Papuans who have never before seen a European and who think aircraft are supernatural hawks. Their thatched-roof clubhouses (illustration, inside cover) with odd overhanging peaks rise in the jungle along riverbanks. In primitive dugout canoes they paddle the waterways and are even suspected of occasional head hunting.

The Netherlands end of the island with its towering Sneeuw Gebergte (Snow Mountains) is even less known. Until the year before the outbreak of World War II no white man had ever seen the thousands of dark-skinned people who cultivated Grand Valley with sharpened sticks and stone implements.

The West's fund of knowledge about New Guinea was greatly increased during the war. When the Japanese invaded it, the Allies were forced to become explorers to drive them out. Among the Allied troops were Australians whose eyes were opened to the commercial possibilities of their huge island neighbor.

They found, also, that the weirdly painted, naked inhabitants of the isolated plateaus (illustration, next page) became courageous and faithful comrades in arms under stress of battle. Intelligent and eager to substitute modern ways for their own savage customs, they became a postwar labor force from which sheepherders and fruitgrowers, as well as tea and coffee planters, could be recruited.

Passion Flower Best Known in United States

As no roads lead from the low, steaming coasts to the interior, all enterprise in New Guinea must use the air. Military air fields built by Americans at many places in the jungle—and used by them to blast the Japanese at Rabaul—have been a blessing to postwar enterprise. Garoka, site of the passion-fruit experiment, has such a field.

In the United States the passion plant is best known for its blossom. Christians for centuries have said that the parts of the bloom represent the implements of the Crucifixion. A dozen varieties grow in the United States. The common maypop, a perennial found in waste places from Virginia south, is a passion plant.

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try; they have journeyed by sea to Argentina for the use of the inhabitants of Tierra del Fuego, the bleak archipelago off the southernmost tip of South America.

In an effort to save the alarmingly dwindling Alaskan herds, the United States government has declared a shooting war on the raider wolves. Airplanes are being used to spot wolf packs and as many as possible are being shot from the air.

Lone Reindeer Easy Prey

The wolves got the upper hand in Alaska during the Second World War when native herders left their reindeer and went to work for the United States Army.

Left to fend for themselves, the reindeer herds were scattered by the wolves. Defenseless individual animals were picked off by the thousands during the war years.

NOTE: Areas where reindeer herds range may be located on the Society's map of Canada, Alaska & Greenland.

For further information, see "Canada Counts Its Caribou," in *The National Geographic Magazine* for August, 1952; and "Deer of the World" and "Antlered Majesties of Many Lands" (paintings), October, 1939.

CARL J. LOMEN

ALASKAN ESKIMOS PREFER THE REINDEER TO THE DOG FOR LONG-DISTANCE TRAVELING

The airy lift of its hoofs would seem to indicate that this reindeer is Prancer of Santa Claus's famous team. A single reindeer can pull a sled-load weighing as much as 200 pounds at an average speed of 30 miles a day.

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The maypop's fruit, however, is small compared to that of *Passiflora edulis*, the variety grown in New Guinea. Raising the giant variety for its purple, slightly acid fruit is big business in Australia, where golden-yellow pulp and fragrant juice have long been prized.

Australians make refreshing drinks of passion-fruit juice, and jams and jellies from its pulp. It flavors confections, and passion-fruit ices are very popular "down under."

"Fancy" grocers in the United States find there is no great demand for the passion-fruit products that reach them from the countryside around Sydney, Australia. If the New Guinea enterprise succeeds, however, passion-fruit growers expect to put on a brisk advertising campaign which will call American attention to this attractive new addition to their already-varied menu.

NOTE: New Guinea is shown on the Society's map of Southeast Asia and Pacific Islands from the Indies and the Philippines to the Solomons.

See also, "New Guinea's Paradise of Birds," in *The National Geographic Magazine* for November, 1951; "Strange Courtship of Birds of Paradise," February, 1950; "Sheep Airlift in New Guinea," December, 1949; "New Guinea's Mountain and Swampland Dwellers," December, 1945; "Treasure Islands of Australasia," June, 1942; and "Unknown New Guinea," March, 1941 (out of print; refer to your library).

E. THOMAS GILLIARD

IN CENTRAL NEW GUINEA, ELABORATE ORNAMENTS MAKE UP FOR LACK OF CLOTHES

Shell headdresses, necklaces, bracelets, and nose-plugs are the most important articles of these New Guinea wardrobes. The small furry animals hanging by their tails from branches are cuscuses, mammals which carry their young in pouches like possums and kangaroos. Experience during the war indicates that these New Guineans are willing to learn white men's ways. They may be usefully employed in Australia's new passion-fruit project.